

State of California
The Resources Agency
Department of Water Resources
Division of Planning and Local Assistance
Quality Assurance Technical Document

DRAFT

GUIDELINES FOR PREPARING
QUALITY ASSURANCE EPISODIC EVENT SHORT-TERM PROJECT
PLANS

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INTRODUCTION

Purpose

These guidelines describe requirements for preparing episodic event/short-term Quality Assurance Project Plans (QAPPs) involving environmental measurement studies conducted by the Department of Water Resources.

In conjunction with the Guidelines for Preparing QAPPs, described in detail by DWR Quality Assurance/Quality Control (QA/QC) staff in DWR Technical Document 7, QA/QC staff has considered the potential for unique opportunities or crisis events that require short-term QA project plans. To this end, QA/QC staff has decided to provide DWR project managers with a condensed version of the QAPP that refers to additional activities that a manager may wish to pursue in conjunction with primary project activities or to new short-term project activities. These activities or events might include, but are not limited to, sampling efforts during such incidents as floods, short-term toxic spills, or any additional sampling efforts in the project area not covered by the original QAPP.

The short-term QAPP developed to cover special episodic project activity should be drafted and filed with an original QAPP as an addition to the original document. It should be available for QA/QC purposes when data from the short-term event are analyzed and received by the project manager. Not all short-term event project areas will be covered by a single existing QAPP. In these cases reference should be made to other existing or historical QAPPs which cover the area or type of event.

The first section of the short-term QAPP consists of a cover sheet which indicates the who, what, where, when, and why of the event. Following the cover sheet is a series of checklists which correspond to information available from other QAPP(s) filed for the project area.

If there are questions regarding this addition to the Guidelines for Preparing QAPPs, please contact Jim Hockenberry of the QA/QC Unit at (916) 327-1638.

DEPARTMENT OF WATER RESOURCES

SHORT-TERM EPISODIC EVENT QA PROJECT PLANS

Fill in appropriate information in Section A of the short-term QAPP. Subsequent sections consist of checklists which refer to available project QAPP(S) and/or work plans. Electronic versions of this form are available in Microsoft Word 6.0 and WordPerfect 6.1 for Windows 3.1.

Project Title: City of Portola, Evaluation of Groundwater Quality

Date: September 22, 1997

Unit: Division of Engineering, Project Geology Section

Section A: PROJECT MANAGEMENT INFORMATION

Project Manager: Steve Belluomini, Brent Lamkin

QA Coordinators: Frank L. Glick, Glen Pearson, Steve Belluomini

1. Type of event or episode:

The event to be studied involves the eradication of Northern Pike from Lake Davis by poisoning. Lake Davis is the primary drinking water source for the City of Portola. The Department of Water Resources (DWR) is assisting the Department of Fish and Game (DFG) in locating an alternative drinking water source. At present, the City of Portolas Corporation Yard Well is DFGs first choice. In order to ascertain whether the well is free from contaminants a series of six monitoring wells are to be drilled in the vicinity of the yard and soil and water samples will be taken from these wells. Groundwater samples will be taken and sent to a state certified laboratory. Soil samples will be evaluated by staff engineering geologists at the site using a photo ionization detector. At least one soil sample for each drilling will be analyzed for Total Petroleum Hydrocarbons (TPH) and Volatile Organic Compounds (VOCs). Soil samples to be sent to BSK will be retained for analysis in clean, brass tubes, 6 inches long by 2 inches in diameter. The tubes will be sealed in Teflon sheeting, capped, labeled and iced to 4E C for delivery under chain of custody guidelines. Groundwater samples will be taken in a manner that eliminates all headspace and bubbles in the sample containers. Samples will be acidified if appropriate and collected in order to minimize the holding times for volatile organic compounds. Samples for each of the six wells will include: three VOA

samples stored in 40ml amber glass containers, one total petroleum hydrocarbons (TPH) (diesel only) stored in 1,000ml glass container, two TPH samples (gas only) stored in 40ml glass containers, one nitrite and nitrate sample stored in a □ pint plastic container (filtered), and one fecal coliform sample stored in a 100ml sterilized plastic container. One duplicate sample will be obtained for each sampling event. Samples will be placed in cold storage and transported to Bryte Laboratory in West Sacramento.

2. Agency responsibility for short-term event study:

The DWR Division of Engineering Project Geology Section and the Department of Fish and Game are responsible for the study.

3. Physical location of the short-term event: The short term event is located in the City of Portola near Lake Davis in Northern California.

4. Schedule of completion:

[Indicate duration of the event and an estimated schedule for completion.](#)

The drilling and sampling operations are scheduled to start on May 29, 1997. Preliminary results of the field work should start arriving about June 2, 1997. The final report to DFG should be completed on June 26, 1997.

5. Significance of the short-term event and what report or deliverable will result from this study:

The significance of the event revolves around the drinking water issues associated with the City of Portola. The event is also significant in that the proposed plan will kill all fish species currently residing in Lake Davis. The information provided by the study will be a determinant in the debate over the suitability of the Corporation Yard Well for a drinking water source. The results of the study will be reported in a final report due three to five working days after the pumping test is completed.

SECTION A: PROJECT MANAGEMENT CHECKLIST

1. Quality Objectives and Criteria for Measurement Data:

a. 9 Quantitative QA Objectives

Data completeness refers to the amount of data that is successfully collected and validated with respect to the amount intended in the project design. A certain percentage of the intended data must be successfully determined for valid conclusions to be reached. Completeness is usually expressed in percent.

DWRs personnel at Bryte Lab and analysts at BSK will follow specific procedures as specified in U.S. EPA guidance for quality assurance and quality control (1982,1983, and 1984).

Quantitative QA parameters may be referenced in the Bryte Lab manual and will be followed for this study.

b. 9 Qualitative QA Objectives

Provide a reference for the following qualitative QA objectives:

The use of six wells, with samples collected as specified above, will provide a representative sampling for the area of concern. Personnel from DWR will do the sampling and will utilize equivalent sampling procedures for each of the six wells.

c. 9 Documentation and records

Data reports will include standard information provided by Bryte Lab which includes sample results, dates and time of sampling events, date of arrival to lab, and dates of analyses. Bryte lab will also provide QC reports which indicate results for holding times, matrix spikes, laboratory control samples, RPDs between duplicates, and results for blanks. Results will be sent to project managers for review and will be archived. Holding times for specific analytes may be referenced in the Bryte Lab manual.

SECTION B: MEASUREMENT/DATA ACQUISITION CHECKLIST

1. Station selection and design:

a. 9 Rational:

A reference for the sampling rationale may be found in the City of Portola work plan.

2. Sampling procedures plan:

a. 9 Methodology

The specific sampling procedure may be referenced in the City of Portola work plan.

b. 9 Sample Preservation

Specific methods of preservation may be referenced in the City of Portola work plan.

c. 9 Sample Containers

Sample containers used for storage are previously indicated in this report.

d. 9 Preparation of Equipment

[Reference procedures for cleaning and preparing sampling equipment and containers to avoid sample contamination.](#)

Specific methods for preparation of equipment may be referenced in the City of Portola work plan.

e. 9 Training

There is no special training required for this study other than specific techniques for sampling from wells. These techniques are provided by personnel from the DWR Division of Planning and Local Assistance Field Sampling Unit.

3. Sample handling and custody requirements:

a. 9 Identification of custodians

Provide a QAPP reference for the "sample custodian" at the laboratory who is authorized to sign for incoming field samples, and obtain documents of shipment (e.g., bill of lading number or mail receipt).

Mark Bettencourt is authorized by DWR to sign for samples at Bryte Lab. BSK will provide a sample custodian at their facility.

b. 9 Tracking forms

Reference laboratory sample tracking procedures for sample handling, storage, disbursement for analysis, and any provision for sample tracking logs. If this information is not in an existing QAPP (due to use of a different lab etc.), you may reference the laboratory Standard Operating Procedures.

Chain of custody forms will track samples from the field, through analysis, and back to project managers for Bryte and BSK laboratories.

c. 9 Sample records

Reference how you verify that data sample numbers are entered onto the chain of custody form.

Verification of sample number transfer will be performed by Mark Bettencourt upon arrival of samples to the lab.

4. Sample processing and analysis:

a. 9 Standard/non-standard methods

For each measurement parameter provide a QAPP reference for the analytical method being used. If method is not in an existing QAPP, provide a written description of the analytical procedures to be used. If the methods used are standard methods from a state certified lab, then provide the method code number. If methods used are not EPA or state certified lab standard method numbers, then provide a descriptive paragraph describing the method used.

The following Bryte lab methods are used in this study:

Volatile Organic Compounds- Code 7

Total Petroleum Hydrocarbons (diesel only)- Code 8015

Total Petroleum Hydrocarbons (gas only)- Code 8015

Nitrite and Nitrate- Codes 41 and 42

Fecal Coliform-

5. Calibration procedures and frequency:

a. 9 Instrument/sample calibration and documentation

References for instrument calibration may be obtained from DWR Division of Planning and Local Assistance Field Unit for field instruments, and from Bryte lab for laboratory analytical equipment.

6. Data reduction and analysis:

a. 9 Calculations and statistics

Provide a QAPP reference for any calculations and/or statistics utilized in the study.

N/A

7. QC data checks, quality control requirements:

DWRs personnel and the analytical laboratories selected will follow specific procedures as specified in U.S. EPA guidance (1982, 1983, and 1984) for quality assurance and quality control.

These procedures are part of DWRs Project Geology Section standard practice during environmental investigations and remedial activities, and are conducted so that data generated represent actual field conditions. Laboratory quality assurance and quality control is governed by internal procedures and the following:

1. U.S. EPA and State of California Department of Health Services lab certification programs.

2. Participation in an inter-agency ☐round-robin☐ quality assurance program.

3. Analyses of QA/QC samples that typically includes laboratory surrogate standard recovery, matrix spike, matrix spike duplicate, and laboratory blank samples.

a. 9 Typical quality control samples and protocols

These include: Blanks ; Replicate analyses [Analyses duplicated in order to assess precision][A predetermined schedule of calibrations documented in hardcover format for reference]; Reagent checks [Double distilled(DDI) water processed through the analytical procedure as a normal sample is processed to determine levels of contamination]; Control charts [Charts generated from control limits specified for analytes of interest. Control limits area available from the laboratory performing the analyses].

b. 9 Corrective action

Provide a QAPP reference for actions taken to correct QC data check problems. If these usual actions do not apply due to specific time constraints of this study, describe what additional or alternative actions will be taken.

Actions taken to correct QC data checks will be provided by standard procedures employed by Bryte lab which include reanalyses of questionable data.

SECTION C: ASSESSMENT AND OVERSIGHT CHECKLIST

1. Assessment and Response Actions:

No assessment activities beyond those described in the City of Portola Workplan.

2. 9 Reports to management:

[required, describe the contents of such reports and list individuals t](#)

A final report to management is sufficient for this project.

SECTION D: DATA VALIDATION AND USABILITY CHECKLIST

1. 9 Data review

The data analyzed for this study will be a reviewed by project management to determine suitability.

2. 9 Data limitations

N/A